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ABSTRACT

The degree of public support for public higher education as measured in constant and current dollars in 1970 and 1980 is examined. Further analysis is made of the change from 1970 to 1980 according to the ratio of the percentage change in appropriations per student to the percentage change in income per student. Aggregate personal income by state is used as a measure of fiscal capacity--the ability of the state to support higher education. Major data sources are the following publications: "Grapevine," "Survey of Current Business," and the "Statistical Abstract of the United States: 1982-1983." Findings include the following: total state tax appropriations for higher education increased by 52.27 percent in constant dollars from 1970 to 1980; personal income increased by 26.90 percent in constant dollars; and enrollment in public colleges and universities increased by 33.62 percent. Information is provided on state and regional trends in appropriations/income, percent change in full-time students from 1970 to 1980 and percent change in current and constant dollars per full-time student by state; appropriations per full-time equivalent student by region; and public appropriations per full-time student by state. (SW)

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STATE SUPPORT FOR HIGHER EDUCATION
CURRENT AND CONSTANT DOLLAR APPROPRIATIONS VIEWED IN RELATION TO PERSONAL INCOME AND PER CAPITA INCOME

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BACKGROUND AND PURPOSE

State tax appropriations have been the primary source of operating funds of public colleges and universities since the latter part of the nineteenth century.[1] In 1978, public institutions of higher education received 43 percent of their total funds from state government appropriations,[2] and up to 70 percent of the operating funds of public universities and colleges were contributed by state governments.[3] While state government tax appropriations for public higher education have increased since 1970 at rates surpassing inflation rates,[4] the percent of state budgets going to higher education has decreased from 14.8 percent in 1971 to 10.7 percent in 1982.[5]

Seldom has the source of funding for public higher education been in such a precarious position. Since the early 1970s, the Carnegie Commission of Higher Education as well as others predicted the decline in enrollments in higher education. These projections have been compounded by the disruptions in the national economy due to inflation and recession. Many state governments are faced with conflicting demands for public welfare in a recessionary period and with strong oposition to any tax increases. The ultimate outcome of these various problems is still unfolding. It is becoming clear, however, that the very nature of the responsibilities of the states and the federal government are being examined with an intensity unsurpassed since the 1929 Depression.

It is not the purpose of this paper to to clarify the basic responsiblities of the governments. It is clear, however, that

higher education will continue to be affected by decisions of government. Instead, the purpose of this paper is to examine the degree of public support for public higher education as measured in constant dollars in 1970 and in 1980. Current dollars will also be given for comparison and convenience of the reader. A further examination will be made of the change from 1970 to 1980 according to the ratio of the percentage change in appropriations per student to the percentage change in income per student. Aggregate personal income by state will be used as a measure of fiscal capacity--the ability of the state to support higher education.

State tax appropriations for higher education and aggregate state personal income data for the years 1970-1971 and 1980-1981 as reported in the monthly and annual issues of GRAPEVINE, SURVEY OF CURRENT BUSINESS, and the STATISTICAL ABSTRACT OF THE UNITED STATES: 1982-1983 are the main sources of data used in this paper.[6]

RESEARCH PROCEDURES

Appropriations and aggregate personal income data were reduced for inflation. Appropriations were reduced to 1967 dollars by the Higher Education Price Index (HEPI) while aggregate personal income was reduced by the Consumer Price Index (CPI).[7] States were then ranked nationally and regionally on these measures.

The 1970 and 1980 appropriations were first adjusted for inflation; then the appropriations were divided by the total full-time equivalent student enrollments in 1970 and 1980 resulting in 1970 and 1980 appropriations per full-time equivalent

student. Percent changes in constant and current dollars per student from 1970 to 1980 were also computed. States were ranked nationally and regionally on the magnitude of per student appropriations for 1970 and for 1980 and on the magnitude of the percent changes from 1970 to 1980.

An index was developed to show the relationship between percentage change in current and constant dollars appropriated per full time student to percentage change in the per capita income of each state. The index was not totally useful because the index is constructed on the assumption of an an increase in appropriations per student and an increase in income per capita. When the data were reduced for inflation to 1967 dollars, some states showed an actual decrease in appropriatons per student in 1980 when compared to 1970. For this reason, current dollars were also used to give the reader a basis of comparison.

FINDINGS:

APPROPRIATIONS TO HIGHER EDUCATION IN CONSTANT DOLLARS

In the decade from 1970 to 1980, total state tax appropriations for higher education increased by 52.27 percent[8] in constant dollars. Table I displays the national and regional index scores in both current and constant dollars. During the same period of time, personal income increased by 26.90 percent[8] in constant dollars. Enrollment in public institutions of higher education increased by 33.62 percent.[8] The index for the entire United States, in constant dollars, was 1.94. Any index larger than 1.0 indicates greater gain in appropriations for higher education than in personal income. In examining indices of

particular states, it would be necessary for an index to exceed 1.94 to indicate "above average" amounts in fiscal effort for higher education.

TABLE I
APPROPRIATIONS-PERSONAL INCOME INDEX FOR THE NATION AND REGIONS
1970 AND 1980 IN CURRENT AND ADJUSTED DOLLARS

REGION	APPROPRIATIONS/INCOME		INDEX		RANK	
	CURRENT	CONSTANT	CUR	CONST	CUR	CONST
UNITED STATES	30.60	25.37	1.18	1.94	--	--
NEW ENGLAND	15.89	17.01	1.11	2.11	5	3
MID EAST	12.34	14.60	1.10	2.92	6	1*
GREAT LAKES	(10.50)	3.72	.93	1.22	7	7
PLAINS	47.88	33.93	1.29	2.41	1	2
ROCKY MOUNTAIN	(46.91)	(11.74)	.80	.79	8	8
SOUTH EAST	47.14	34.94	1.23	1.83	4	5
SOUTH WEST	60.51	43.18	1.25	1.71	3	6
FAR WEST	54.88	38.60	1.28	2.00	2	4

*The Mid Eastern Region's rank is dramatically different because New York reported an increase in appropriations per higher education and a decline in personal income. The index is based on the assumption of at least a 2 percent increase; thus the rank reflects a mathematical aberation.

In terms of constant dollars, the Regions of the Mid East (2.92), the Plains (2.41), New England (2.11), and the Far West (2.00) were all above the national average index score of 1.94. The Regions of the South East (1.83), the South West (1.71), the Great Lakes (1.22), and the Rocky Mountains (.79) were below the national average of 1.94. In terms of current dollars, however, the Plains (1.29), the Far West (1.28), the South West (1.25), and the South East (1.23), were above the national average of 1.18. On both indices, the Plains and the Far West were above the national average. The differences in ranking on the two indices are explained by the fact that appropriations to higher education were reduced by the Higher Education Price Index (HEPI), and

Aggregrate State Income was reduced by the Consumer Price Index (CPI).

Table II displays an index based on constant dollars and current dollars with national ranking. Nineteen states exceeded the national average index of 1.94. Three of the five Mideastern states (60%) were in this category with New Jersey (ranked 4th) Delaware (ranked 5th), and Maryland (ranked 13th).[9] Four of the seven Plains States (57%) also had indices above the national average; Iowa ranked sixth, Nebraska followed in seventh place; Minnesota came in eleventh in this category. Only one of the five Great Lakes States exceeded the national average--Ohio--with a national ranking of eighth place. In the Far West Region only two states (33%) were above the national average; they were California (ranked tenth) and Alaska (ranked fifteenth).

Table II also depicts the states in current dollars. Twenty-one states exceeded the national average index of 1.18. Even though relative ranks changed, 15 states were above average on both indices; they were: Alabama, South Carolina, North Carolina, California, Alaska, Nebraska, Iowa, Delaware, Virginia, Minnesota, Mississippi, New Jersey, Tennessee, Ohio, and Kansas. In current dollars, the states of Texas, Massachusetts, Oklahoma, Maryland, North Dakota, and Wyoming were above average in appropriaions to higher education; in constant dollars, the additional states of New York, Maryland, Connecticut, and Rhode Island were above the national average; in current dollars, however, they were below the national average.

TABLE II

APPROPRIATIONS/INCOME INDEX BASED ON PERCENTAGE CHANGE IN CURRENT AND CONSTANT DOLLARS FOR 1970 AND 1980 IN APPROPRIATIONS TO HIGHER EDUCATION AND STATE AGGREGATE INCOME

STATE	CONSTANT INDEX	AND RANK	CURRENT INDEX	AND RANK	REGION
UNITED STATES	1.94	--	1.18	--	-------
ALABAMA	5.08	1	2.46	1	SOUTH EAST
SOUTH CAROLINA	4.00	2	2.07	2	SOUTH EAST
MASSACHUSETTS	3.87	3	1.32	14	NEW ENGLAND
NEW JERSEY	3.72	4	1.33	13	MID EAST
DELAWARE	3.47	5	1.45	8	MID EAST
IOWA	3.29	6	1.47	7	PLAINS
NEBRASKA	3.03	7	1.48	6	PLAINS
OHIO	2.89	8	1.24	18	GREAT LAKES
NORTH CAROLINA	2.82	9	1.53	4	SOUTH EAST
CALIFORNIA	2.72	10	1.53	4	FAR WEST
MINNESOTA	2.65	11	1.39	10	PLAINS
VIRGINIA	2.43	12	1.44	9	SOUTH EAST
MARYLAND	2.42	13	1.28	16	MID EAST
MISSISSIPPI	2.20	14	1.36	11	SOUTH EAST
ALASKA	2.11	15	1.48	6	FAR WEST
CONNECTICUT	2.01	16	1.09	27	NEW ENGLAND
TENNESSEE	1.99	17	1.27	17	SOUTHEAST
RHODE ISLAND	1.97	18	1.06	31	NEW ENGLAND
KANSAS	1.94	19	1.21	19	PLAINS
TEXAS	1.90	20	1.35	12	SOUTH WEST
OKLAHOMA	1.89	21	1.30	15	SOUTH WEST
NORTH DAKOTA	1.83	22	1.20	20	PLAINS
MISSOURI	1.80	23	1.09	27	PLAINS
INDIANA	1.79	24	1.07	30	GREAT LAKES
WISCONSIN	1.77	25	1.11	24	GREAT LAKES
ARKANSAS	1.58	26	1.14	22	SOUTH EAST
PENNSYLVANIA	1.55	27	.98	37	MID EAST
UTAH	1.49	28	1.13	23	ROCKY MTS
WYOMING	1.48	29	1.19	21	ROCKY MTS
NEW MEXICO	1.40	30	1.08	28	SOUTH WEST
KENTUCKY	1.38	32	1.02	33	SOUTH EAST
WEST VIRGINIA	1.33	32	1.01	35	SOUTH EAST
GEORGIA	1.31	34	1.01	35	SOUTH EAST
NEVADA	1.31	34	1.07	30	FAR WEST
LOUISIANA	1.29	35	1.03	32	SOUTH EAST
NEW HAMPSHIRE	1.27	36	1.00	35	NEW ENGLAND
SOUTH DAKOTA	1.04	37	.80	40	PLAINS
IDAHO	1.01	39	.90	39	ROCKY MTS
ARIZONA	1.01	39	.90	39	SOUTH WEST
HAWAII	.84	40	.83	41	FAR WEST
FLORIDA	.79	41	.79	42	SOUTH EAST
OREGON	.67	42	.75	44	FAR WEST
MICHIGAN	.57	43	.77	43	GREAT LAKES
WASHINGTON	.54	44	.69	49	FAR WEST
MAINE	.52	45	.73	46	NEW ENGLAND
MONTANA	.48	46	.70	47	ROCKY MTS
COLORADO	.36	47	.59	50	ROCKY MTS
VERMONT	.24	48	.69	49	NEW ENGLAND
ILLINOIS	.20	49	.73	46	GREAT LAKES
NEW YORK [9]	***	***	1.09	27	MID EAST

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APPROPRIATIONS PER STUDENT IN 1970 AND IN 1980

With the projections of a decline in student enrollment now so common, the changes in levels of state support are not significant in themselves, unless there might be a corresponding change in the number of students enrolled. Table III shows the percent change in number of students enrolled, measured in full-time equivalent students from 1970 to 1980 by each region; it also shows the percentage change, in constant and current dollars, of appropriations per full-time student. Only in the Regions of the Far West, the Rocky Mountains, and the Plains did the percentage increase in constant dollars exceed the percentage change in number of students enrolled, measured in full-time equivalent students from 1970 to 1980 by each region; it also shows the percentage change, in constant and current dollars of appropriations per full-time student. Only in the Regions of the Far West, the Rocky Mountains, and the Plains did the percentage increase in constant dollars exceed the percentage increase in

TABLE III
PERCENT CHANGE IN ENROLLMENT AND APPROPRIATIONS PER STUDENT IN CONSTANT AND CURRENT DOLLARS FROM 1970 TO 1980

REGION	PERCENT CHANGE IN FTE	PERCENT CHANGE IN CONSTANT $	PERCENT CHANGE IN CURRENT $
UNITED STATES	33.62%	13.10%	124.50%
NEW ENGLAND	34.63%	-2.29%	93.53%
MID EAST	33.78%	-10.28%	79.88%
GREAT LAKES	25.32%	-5.66%	89.55%
PLAINS	17.58%	32.00%	164.66%
ROCKY MOUNTAINS	18.39%	21.49%	139.47%
SOUTH EAST	51.41%	16.82%	130.27%
SOUTH WEST	47.10%	36.13%	173.00%
FAR WEST	28.53%	35.55%	171.24%

full-time equivalent students. In addition, the regions of the South East and the South West exceeded the national average of

11.40. New England, the Mid East, and the Great Lakes Regions showed an actual decline in constant dollars appropriated per student from 1970 to 1980. In current dollars, the Plains, Rocky Mountains, South East, South West, and the Far West were all above the national average; conversely, New England, Mid East and the Great Lakes were below the national average on both of the indices.

In percentage increase in terms of students, New England, the Mid East, the South East, and the South West were above the national average; the Regions of the Great Lakes, the Plains, the Rocky Mountains, and the Far West were below the national average. A preliminary examination of the data could support the concept of flight to the Sunbelt states. Even though, the South East (51.41%) had the greatest increase in students from 1970 to 1980, it should be noted that the states of Texas and California together enrolled more students than did the entire Southeastern Region in 1980. Over 50 percent of all students enrolled in public higher education, however, were in those regions that were below the national average in percentage increase in students. The data on percentage change in full-time equivalent enrollment, however, give the reader an idea of the magnitude and the different environments confronting the various states from 1970 to 1980. Rates of growth should have some impact on need for appropriations.

Table IV shows the percentage change in full-time equivalent enrollment for each state from 1970 to 1980. The Table also shows the percent change in appropriations for the same decade in constant and current dollars. While the national average increase

TABLE IV
PERCENT CHANGE IN FULL-TIME STUDENTS FROM 1970 TO 1980 AND PERCENT CHANGE IN CURRENT AND CONSTANT DOLLARS PER FULL-TIME STUDENT FROM 1970 TO 1980 BY STATE

STATE	PERCENT CHANGE IN FTE	PERCENT CHANGE IN CONSTANT $	PERCENT CHANGE IN CURRENT $
UNITED STATES	33.62%	13.10	124.50
NEVADA	117.87	-9.03	79.15
SOUTH CAROLINA	114.62	18.45	133.39
ALASKA	99.73	22.44	141.15
VIRGINIA	79.36	5.01	108.76
NORTH CAROLINA	72.55	9.91	117.59
NEW JERSEY	61.71	-11.71	73.90
ALABAMA	60.99	80.29	254.92
ARIZONA	56.26	9.38	115.41
TEXAS	54.00	37.03	176.96
FLORIDA	52.11	-2.46	92.07
DELAWARE	50.18	6.15	110.00
NEW HAMPSHIRE	47.46	3.67	104.04
MASSACHUSETTS	43.86	-1.86	93.08
TENNESSEE	43.26	21.60	139.42
MARYLAND	42.50	8.37	113.32
NORTH DAKOTA	41.97	22.44	129.33
KENTUCKY	38.93	6.05	103.61
VERMONT	37.62	-24.59	49.93
WASHINGTON	36.43	-9.32	79.59
ARKANSAS	35.97	27.47	151.15
IOWA	33.43	20.68	145.02
MISSISSIPPI	32.49	38.74	173.10
GEORGIA	32.29	11.58	119.65
MAINE	30.50	-13.11	72.80
ILLINOIS	30.32	-24.64	54.95
INDIANA	29.76	.31	103.54
LOUISIANA	29.16	27.94	153.25
NEBRASKA	27.42	36.80	169.57
RHODE ISLAND	27.34	.38	95.87
NEW YORK	27.30	-17.01	73.00
CALIFORNIA	27.00	51.69	204.45
WISCONSIN	26.29	13.46	123.26
NEW MEXICO	25.01	39.85	175.28
PENNSYLVANIA	24.40	.17	92.75
COLORADO	24.03	-2.31	92.35
OHIO	22.51	12.22	125.36
OKLAHOMA	21.91	62.57	220.09
MICHIGAN	20.72	-8.26	82.55
CONNECTICUT	20.11	6.54	114.11
HAWAII	18.47	5.16	107.11
OREGON	18.19	10.47	120.93
WEST VIRGINIA	17.76	23.45	145.58
IDAHO	17.02	28.95	155.26
MISSOURI	16.82	15.51	129.76
KANSAS	16.77	37.92	171.38
UTAH	16.16	55.10	205.60
WYOMING	14.11	113.82	321.09
MINNESOTA	12.90	44.61	195.04
MONTANA	5.61	9.73	115.91
SOUTH DAKOTA	-2.18	25.33	146.69

in full-time students was 33.62 percent, the range reached from a high of 117.8 percent increase (an increase of less than 13,000 students) for Nevada to an actual decrease of 2.18 percent in South Dakota.

As previously indicated, the reporting of percentage changes can be misleading. To help obviate this possibility, the actual dollars, both current and constant, appropriated per full-time student in 1970 and in 1980 should be examined. Table V shows the appropriations per full-time student equivalent student in 1970 and in 1980 by region in constant dollars.

Table V indicates that in constant dollars, the Far West, the Plains, and the South East Regions were above the national average in increased appropriations per student enrolled in institutions of public higher education. The Regions of the Rocky Mountains, an the South West increased appropriations to higher education from 1970 to 1980 but at a rate below the national average. The remaining Regions, New England, the Mid East, and the Great Lakes, actually decreased appropriations per student from 1970 to 1980 when measured in constant dollars. The Mid East region decreased its appropriations per student by 10.28 percent; the Great Lakes Region decreased appropriations by 5.66 percent, and the New England Region decreased appropriations by 2.29 percent. While appropriations to higher education increased 52.27 percent between 1970 and 1980, the actual dollars appropriated per student only increased 13.10 percent.

Table V also shows that in current dollars, the Mid East, the Plains, the South East, and the Far West were above the national average in dollars appropriated per student. However, on both

percentage increase in constant and current dollars appropriated to higher education, the Regions of New England, the Great Lakes, and the Rocky Mountains were below the national average on indices.

TABLE V

APPROPRIATIONS PER FULL-TIME EQUIVALENT STUDENT IN 1970 AND 1980 IN CURRENT AND CONSTANT DOLLARS

REGION	1970 APPROPRIATIONS PER FTE CURR $	CONST $	1980 APPROPRIATIONS PER FTE CURR $	CONST $
UNITED STATES	$1,412	$1,137	$3,170	$1,286
NEW ENGLAND	$1,438	$1,180	$2,783	$1,153
MID EAST	$1,879	$1,410	$3,380	$1,265
GREAT LAKES	$1,473	$1,184	$2,792	$1,117
PLAINS	$1,245	$1,022	$3,295	$1,349
ROCKY MOUNTAINS	$1,216	$1,005	$2,912	$1,221
SOUTH EAST	$1,480	$1,219	$3,408	$1,424
SOUTH WEST	$1,115	$ 919	$3,044	$1,251
FAR WEST	$1,203	$ 993	$3,263	$1,346

Table VI displays the appropriations in constant dollars per student in 1970 and in 1980 by the fifty states and the rank of each state for 1970 and 1980. All figures are given in constant dollars. Current dollars are not given because the rank would remain essentially the same, and constant dollars permit the identification of those states that have decreased appropriations on a per full-time equivalent student base. The state of Alaska held first place in both 1970 and in 1980. Wyoming moved from 39th place in 1970 to second place in 1980. Illinois dropped from fourth place in 1970 to 35th in 1980. Eleven states recorded an actual decline in appropriations per student when measured in constant dollars; only New York, however, showed an absolute decline in personal income. Fifty percent of the states composing the New England Region showed an absolute decline in per student allocations; Vermont led the region with a decline in per student of 24.59 percent. Maine (-13.11), and Massachusetts (-1.86) both

TABLE VI

PUBLIC APPROPRIATIONS PER FULL-TIME STUDENT IN 1970 AND 1980 BY STATE IN CONSTANT DOLLARS

STATE	1970 APPROPRIATIONS/ STUDENT AND RANK		1980 APPROPRIATIONS/ STUDENT AND RANK		PERCENT CHANGE
ALASKA	$2,914	1	$3,568	1	22.44%
NEW YORK	1,675	2	1,390	18	(17.01)
HAWAII	1,627	3	1,711	3	5.16
ILLINOIS	1,546	4	1,165	35	(24.64)
GEORGIA	1,451	5	1,691	5	11.58
CONNECTICUT	1,421	6	1,514	9	6.54
SOUTH CAROLINA	1,409	7	1,669	4	18.45
NORTH CAROLINA	1,393	8	1,531	8	9.91
KENTUCKY	1,355	9	1,437	15	6.05
FLORIDA	1,34[illegible]	10	1,311	22	(2.46)
IOWA	1,325	11	1,599	6	20.68
INDIANA	1,305	12	1,309	23	.31
RHODE ISLAND	1,301	13	1,306	24	.38
NEVADA	1,284	14	1,168	34	(9.03)
NEW JERSEY	1,264	15	1,116	39	(11.71)
WASHINGTON	1,256	16	1,139	37	(9.32)
MAINE	1,228	17	1,067	41	(13.11)
VIRGINIA	1,198	18	1,258	26	5.01
PENNSYLVANIA	1,178	19	1,180	31	.17
VERMONT	1,159	20	874	49	(24.59)
LOUISIANA	1,156	21	1,479	11	27.94
ARKANSAS	1,154	22	1,471	13	27.47
IDAHO	1,147	23	1,479	11	28.95
MARYLAND	1,123	24	1,217	28	8.37
WEST VIRGINIA	1,113	25	1,374	20	23.45
MINNESOTA	1,094	26	1,582	7	44.61
DELAWARE	1,090	27	1,157	36	6.15
MICHIGAN	1,077	28	988	47	(8.26)
MASSACHUSETTS	1,075	29	1,055	44	(1.86)
WISCONSIN	1,055	30	1,197	30	13.46
NEW MEXICO	1,039	31	1,453	14	39.85
COLORADO	1,037	32	1,013	46	(2.31)
MISSISSIPPI	1,035	33	1,436	16	38.74
MISSOURI	1,019	34	1,177	32	15.51
TENNESSEE	1,000	35	1,216	29	21.60
OREGON	974	36	1,076	40	10.47
MONTANA	966	37	1,060	42	9.73
TEXAS	964	38	1,321	21	37.03
WYOMING	941	40	2,012	2	113.82
OHIO	941	40	1,056	43	12.22
NEBRASKA	932	41	1,275	25	36.80
NORTH DAKOTA	918	42	1,124	38	22.44
CALIFORNIA	910	43	1,380	19	51.69
UTAH	902	44	1,399	17	55.10
ARIZONA	896	45	980	48	9.38
KANSAS	886	46	1,222	27	37.92
SOUTH DAKOTA	837	47	1,049	45	25.33
ALABAMA	822	48	1,482	10	80.29
OKLAHOMA	724	49	1,177	32	62.57
NEW HAMPSHIRE	654	50	678	50	3.67

decreased support on a per student basis. The state of Illinois (-24.64) led the Great Lakes Region and the Nation with almost a 25 percent decrease in support of education from 1970 to 1980. Michigan (-7.19) was the only other Great Lakes state to show a decline. Two of the five states found in the Mid East Region also recorded declines--New York (-17.01), and New Jersey (-11.71). The states of Nevada (-9.03), Washington (-9.32), Florida (-2.46) and Colorado (-2.31) declined in constant dollars per full-time student from 1970 to 1980.

To get a more accurate view of public support of higher education, it is necessary to combine the indices of personal income/public appropriations with public appropriations per full-time equivalent student; this is displayed in Table VII. Table VII shows the patterns of states according to higher education appropriations per student and aggregate state personal income falling above or below the national average in each category. Cell One includes states where both percent increases in appropriations per student and personal income gains were greater than the national average. No state from the New England Region, the Mid East Region, or the Great Lakes Region fell into this category. Sixty percent of the Rocky Mountains, 58 percent of the South East and the Far West, 75 percent of the South West and 29 percent of the Plains are found in Cell One. A total of 17 states are located in Cell One where appropriations per student and personal income exceeded the national average.

In Cell Two, higher education appropriations per student were less than the national average, but personal income was higher than the national average. This might be a Cell in which support

TABLE VII

PERCENT CHANGES IN FTE ENROLLMENT AND CONSTANT APPROPRIATIONS PER FTE STUDENT AS COMPARED TO PERCENT CHANGE IN PERSONAL INCOME FROM 1970 TO 1980

CELL ONE (ABOVE NATIONAL AVERAGE IN DOLLARS PER STUDENT AND IN PERSONAL INCOME)	CELL THREE (ABOVE NATIONAL AVERAGE IN DOLLARS PER STUDENT AND BELOW AVERAGE IN PERSONAL INCOME)
ALASKA	
SOUTH CAROLINA	
LOUISIANA	
ARKANSAS	
IDAHO	IOWA
WEST VIRGINIA	MINNESOTA
NEW MEXICO	WISCONSIN
MISSISSIPPI	
TENNESSEE	
TEXAS	
WYOMING	
CALIFORNIA	NEBRASKA
UTAH	
KANSAS	SOUTH DAKOTA
NORTH DAKOTA	MISSOURI
ALABAMA	
OKLAHOMA	

CELL TWO (BELOW NATIONAL AVERAGE IN DOLLARS PER STUDENT AND ABOVE AVERAGE IN PERSONAL INCOME)	CELL FOUR (BELOW NATIONAL AVERAGE IN DOLLARS PER STUDENT AND IN PERSONAL INCOME)
HAWAII	NEW YORK
GEORGIA	ILLINOIS
NORTH CAROLINA	CONNECTICUT
KENTUCKY	PENNSYLVANIA
FLORIDA	RHODE ISLAND
NEVADA	NEW JERSEY
WASHINGTON	MARYLAND
MAINE	INDIANA
VIRGINIA	VERMONT
NEW HAMPSHIRE	OHIO
ARIZONA	DELAWARE
COLORADO	MICHIGAN
OREGON	
MONTANA	MASSACHUSETTS

and effort for higher education did not equal the fiscal capacity of the state at least in terms of support for higher education. The Regions of the Mid East, the Great Lakes, and the Plains are

not represented in this Cell. Sixty-six percent of the Far West, 42 percent of the South East, 40 percent of the Rocky Mountains, 33 percent of New England and 25 percent of the South West Regions are found in Cell Two for a total of 14 states or 28 percent.

In Cell III, personal income gains were less than the national average, but appropriations per-student exceeded the national average for the decade. In a sense this Cell is illustrative of strong support for higher education apparently in the face of declining available revenues, at least as measured by aggregate personal income. The Regions of New England, Mid East, Rocky Mountains, South East, South West, and the Far West are not represented in Cell III. Seventy-one percent of the Plains states, however, are found in Cell III. The Great Lakes Region is represented by 40 percent of its states. A total of 6 states or 12 percent are found in Cell III.

Finally, Cell IV includes those states where appropriations per student and personal income gains were less than the national average. The Rocky Mountains, the South West, the South East, and the Far West Regions are not represented in Cell IV. However, 100 percent of the Mid East, 66 percent of the North East, 80 percent of the Great Lakes, and 14 percent of the Plains are found in Cell IV representing 24 percent or thirteen states of the Union.

Up to this point in the study, aggregate personal income has been used as a measure of a state's wealth. A more common measure is the per capita income of a particular state. The per capita measure is often used to control for scale effects in interstate comparisons of effort to support education. To provide comparability of the findings of this study with other studies, an

index based on per capita income has been computed. Table VIII displays the relationship between appropriations per full-time student and per capita income by state in both current and constant dollars. It is assumed that the higher the effort, the higher the index score. Effort, however, should not be confused with actual support. Utah, for example ranks first in effort, but 17th in terms of dollars appropriated for each student. As seen on the Table, the ranks, whether in constant or current dollars, are relatively close in position.

The pattern emerging from this analysis is generally supportive of the Sunbelt versus the industrialized Northeast and Upper Midwest, as demonstrated by the fact that all of the Mideastern states are below the national average in terms of income and appropriations per student. There are, however, some exceptions; Iowa, Ohio, Minnesota, Wisconsin, Nebraska, and South Dakota, even though below the national average in income, were above the national average in support of higher education as measured on a per student basis. The states of Hawaii, Georgia, North Carolina, Kentucky, Florida, Oregon, Colorado, and Arizona were all below the national average in terms of support of students, but above the national average in income; the appropriations income indices were all negative, revealing an imbalance between appropriations and income gains. In short, these states had resources but chose not to utilize them for higher education. Similarly, Nevada, Washington, Maine, Virginia, Montana, and New Hampshire experienced gains in personal income which were greater than the national average gain; however, these

states did not devote relatively as much of the gain to higher education as did many other states.

This brief study cannot begin to do full justice to individual state circumstances. This report, however, does document to some extent the nature and location of some fiscal problems in the states. The study is probably of more value when viewed as encouraging comparisons of individual states through time rather than an interstate comparison.

To what degree appropriatons per student in constant dollars can be viewed as a measure of achievement or fiscal support is subject to debate. However, with the broad range of percentage change in per full-time student enrollment among the states, the issue must receive more attention than it has in the past. Conversely, what value assigned to changes in appropriations per student from 1970 and 1980 is difficult to access. There has not been a longitudinal study of appropriations per full-time students, and there are no bench marks for comparisons. It may be necessary to encourage studies of appropriations per student in each state, in constant dollars, over an extended period of time, and studies pertaining to the ability of the states to support and maintain constant levels of support for higher education. With the changes in the distribution of the traditional cohort group, and the predicted changes in cohort groups and non-traditional students, it is becoming increasingly clear that not all of these changes will impact all states equally. Analytical procedures need to be developed that will encourage the examination of the scope and magnitude of need for higher education in each state as well as the fiscal support to meet those identified needs.

TABLE VIII

INDEX BASED ON 1970 AND 1980 APPROPRIATIONS PER FULL-TIME STUDENT AND PER CAPITA INCOME IN BOTH CURRENT AND CONSTANT DOLLARS

REGION AND STATE	APPROPRIATIONS AND PER CAPITA CHANGE 70-80 CONSTANT DOLLARS	RANK	CURRENT DOLLARS	RANK
UNITED STATES	.96	--	.88	--
UTAH	4.48	1	1.48	3
ALABAMA	3.88	2	1.63	2
CALIFORNIA	3.64	3	1.44	4
WYOMING	2.92	4	1.65	1
NEBRASKA	2.58	5	1.19	7
MINNESOTA	2.45	6	1.29	5
OKLAHOMA	2.23	7	1.28	6
NEW MEXICO	1.91	8	1.12	8
MISSISSIPPI	1.86	9	1.11	9
IDAHO	1.79	10	1.06	11
KANSAS	1.64	11	1.06	11
SOUTH DAKOTA	1.46	12	.99	14
TEXAS	1.37	13	1.04	12
IOWA	1.32	14	.99	14
TENNESSEE	1.26	15	.94	16
ARKANSAS	1.24	16	.95	15
MISSOURI	1.22	17	.93	18
SOUTH CAROLINA	1.22	18	.87	21
GEORGIA	1.18	19	.84	24
WEST VIRGINIA	1.12	20	.93	18
OHIO	1.00	21	.91	20
LOUISIANA	.90	22	.86	23
NORTH DAKOTA	.85	23	.77	32
ALASKA	.82	24	.83	28
DELAWARE	.80	25	.86	23
WISCONSIN	.77	26	.83	28
ARIZONA	.74	27	.83	28
NORTH CAROLINA	.68	28	.82	29
MARYLAND	.59	29	.80	31
OREGON	.58	30	.80	31
CONNECTICUT	.54	31	.83	28
MONTANA	.51	32	.76	33
KENTUCKY	.36	33	.70	37
NEW HAMPSHIRE	.27	34	.74	35
VIRGINIA	.26	35	.71	37
HAWAII	***	***	.92	21
INDIANA	***	***	.75	34
RHODE ISLAND	.03	37	.68	39
MASSACHUSETTS	***	***	.71	37
PENNSYLVANIA	***	***	.67	41
FLORIDA	***	***	.67	41
NEW YORK	***	***	.62	43
NEVADA	***	***	.62	43
COLORADO	***	***	.58	44
MICHIGAN	***	***	.57	45
NEW JERSEY	***	***	.56	46
MAINE	***	***	.53	47
WASHINGTON	***	***	.51	48
ILLINOIS	***	***	.42	49
VERMONT	***	***	.41	50

According to this analysis, appropriations per student has actually declined in 10 states representing 28.25 percent of the total student population enrolled in public higher education in 1980. Another three states representing 6 percent of the enrolled student population increased support per student less than one percent. Another ten states, representing 12.97 percent of students enrolled, increased support of a per student basis by less than ten percent. If the dramatic rise of energy costs, equipment, and inflation over the decade of the seventies are taken with the actual decline of public support for higher education, one might conclude that less dollars are actually going into the education of students than were prior to 1970.

Further Research

Additional research is underway which will enable analyses of these findings with other variables and purposes. One effort will enable examination of the support of higher education in constant dollars and calculation of the state support for higher education excluding the impact of energy, maintenance, and physical plant costs. This will isolate the extent to which energy related matters have consumed a disproportionate amount of gain in dollar support of higher education in the 1970s.

A second effort will be to determine the distribution of support of higher education among the various sub-systems of higher education--public community colleges, 4-5 year colleges, and research universities. There is growing evidence that the proportion of support for the various sub-systems of education was altered during the decade of the 1970s.

A third effort will be to separate public appropriations to higher education between institutions of private higher education and institutions of public higher education. There is growing evidence that the lines between public and private higher education, in terms of public appropriations, are becoming less and less precise.

A fourth effort will be to determine the changes in public appropriations, over an extended period of time, per full-time student in constant dollars.

END NOTES

[1]The first state university to receive continuous state appropriations was the University of South Carolina in 1801. The University of Virginia received annual grants after its founding in 1818. For full discussions on the evolution of state support of public higher education, see Elchanon Cohn and Larry L. Leslie, "The Development and Finance of Higher Education In Perspective." in Subsidies to Higher Education: The Issues, edited by Howard P. Tuckman and Edward Whalen (New York: Praeger Publishers, 1980), pp. 11-32, and Cunningham, James, Sources of Finance for Higher Education in America. (Washington, D. C.: University of America, 1980).

[2]Larry L. Leslie, "The Financial Prospects for Higher Education in the '80s" in Financing Postsecondary Education in the 1980s, edited by Fred Harcleroad (Tuson, Arizona: Center for the Study of Higher Education, College of Education, University of Arizona, 1979), p. 9.

[3]Cunningham, p. 97.

[4]M. M. Chambers, Higher Education in the Fifty States (Danville, Illinois: Interstate Printers and Publishers, 1970), pp. 4-5, and Edward Hines, et. al. State Support of Higher Education: Appropriations Viewed in Relation to Personal Income. Normal, Illinois: Center for the Study of Educational Finance and the Center of Higher Education, Department of Educational Administration and Foundations, College of Education, Illinois State University, 1982), p. 4.

[5] Leslie, p. 10.

[6] Figures for appropriations in 1970-71 for each state except Pennsylvania are from M. M. Chambers, Appropriations of State Tax Funds for Operating Expenses of Higher Education 1970-71, Washington, D.C.: National Association of State Universities and Land-Grant Colleges, September 1, 1970, p. 5. For 1970-71 Pennsylvania data were obtained from the 1971-72 edition of Appropriations of State Tax Funds for Operating Expenses of Higher Education, October 1980, p. 5. Michigan data for 1980-1981 were obtained from Grapevine, 23:272 (January 1981), p. 1712. Personal income data were obtained from the United States Department of Commerce, Office of Business Economics, Survey of Current Business, 61:7 (July 1981), p. 30. The District of Columbia data, reported in the Survey, are omitted from the analysis. Income per capita data were obtained from Statistical Abstract of the United States: 1982-1983, Washington, D. C.: United States Bureau of the Census, 1982. p. 427.

[7]The Higher Education Price Index was chosen because it was developed specifically on data representing the purchasing patterns of institutions of higher education; the Consumer Price Index, on the other hand, is based upon the purchasing patterns of

urban and rural dwellers throughout the nation. As such, it is viewed as being a more accurate index of effect of inflation on the purchasing power of total state personal income.

[8]See Tables One through Seven.

[9]New York is not ranked because in constant dollars, personal income decreased while appropriations to higher education increased. The formula for the index is based upon the assumption that there are increases; thus, New York's ranking is a result of a mathermatical aberation. This helps explain the high rank of the Mid East as reported in Table One. As aterisk will be used on charts to alert the reader to this problem.